WARNING!

This manual provides critical safety instructions on the proper setup, operation, maintenance, and service of this machine/tool. Save this document, refer to it often, and use it to instruct other operators.

Failure to read, understand and follow the instructions in this manual may result in fire or serious personal injury—including amputation, electrocution, or death.

The owner of this machine/tool is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, cutting/sanding/grinding tool integrity, and the usage of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.

WARNING!

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints.
- Crystalline silica from bricks, cement and other masonry products.
- Arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.
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INTRODUCTION

Machine Description

The Model G0757 Milling Machine has a vertical and horizontal spindle that are designed to remove material from a metal workpiece secured to the work table or a mill vise. The cutting tool is fixed to the rotating spindle and the workpiece is moved into the cutting tool by lowering the spindle or moving the table.

Spindle downfeed options are rapid (coarse) control or slow (fine) control with adjustable auto-downfeed controls.

The Model G0757 features high-precision P5 spindle bearings.

The wide range of cutting tools and optional available equipment combined with the flexible features of this milling machine makes countless metalworking operations possible.

Manual Accuracy

We are proud to provide a high-quality owner's manual with your new machine!

We made every effort to be exact with the instructions, specifications, drawings, and photographs in this manual. Sometimes we make mistakes, but our policy of continuous improvement also means that sometimes the machine you receive is slightly different than shown in the manual.

If you find this to be the case, and the difference between the manual and machine leaves you confused or unsure about something, check our website for an updated version. We post current manuals and manual updates for free on our website at www.grizzly.com.

Alternatively, you can call our Technical Support for help. Before calling, make sure you write down the Manufacture Date and Serial Number from the machine ID label (see below). This information is required for us to provide proper tech support, and it helps us determine if updated documentation is available for your machine.

Contact Info

We stand behind our machines. If you have any questions or need help, use the information below to contact us. Before contacting, please get the serial number and manufacture date of your machine. This will help us help you faster.

Grizzly Technical Support
1203 Lycoming Mall Circle
Muncy, PA 17756
Phone: (570) 546-9663
Email: techsupport@grizzly.com

We want your feedback on this manual. What did you like about it? Where could it be improved? Please take a few minutes to give us feedback.

Grizzly Documentation Manager
P.O. Box 2069
Bellingham, WA 98227-2069
Email: manuals@grizzly.com

To reduce your risk of serious injury, read this entire manual BEFORE using machine.
Right Front View Identification

- Motor Handle
- Vertical V-Belt Cover
- Coarse Downfeed Lever
- Ram Controls
- Horizontal Spindle
- X-Axis Handwheel
- X-Axis Power Feed
- Coolant Return Hose
- Horizontal Spindle Control Sub-Panel
Basic Controls

Refer to Figures 1–3 and the following descriptions to develop an understanding of the basic controls used to operate the milling machine. This knowledge will be necessary to safely complete the Test Run later in this manual.

Additional details for certain controls are also located in the Operations section.

Master Power Switch

Master Power Switch: Enables power to flow to the machine when the “I” is visible at the top of the switch.

Master Control Panel

A. **Power Lamp Button:** When pressed, illuminates and enables power to both control panels. Both Emergency STOP buttons must be reset first.

B. **Forward Button (Vertical Spindle):** Starts vertical spindle forward rotation (clockwise looking down on the headstock).

C. **Reverse Button (Vertical Spindle):** Starts vertical spindle reverse rotation (counterclockwise looking down on the headstock).

D. **STOP Button (Vertical Spindle):** Stops vertical spindle rotation.

E. **Emergency STOP Button:** Disables power to both control panels and stops all machine functions. To reset, twist the button clockwise until it pops out.

F. **STOP Button (Horizontal Spindle):** Stops horizontal spindle rotation.

G. **Reverse Button (Horizontal Spindle):** Starts horizontal spindle reverse rotation (clockwise as viewed from the front of the machine).

H. **Forward Button (Horizontal Spindle):** Starts horizontal spindle forward rotation (counterclockwise as viewed from the front of the machine).

I. **Coolant Pump Switch:** Starts/stops the coolant pump and the flow of coolant.

NOTICE

Spindle rotation direction can ONLY be changed when the spindle is completely stopped.
Horizontal Spindle Control Sub-Panel

Figure 3. Horizontal spindle control sub-panel located on knee.

J. **Forward Button (Horizontal Spindle \( \Phi \))**: Starts horizontal spindle forward rotation (counterclockwise as viewed from the front of the machine).

K. **Horizontal Spindle Power Lamp**: Illuminates when power is enabled to the control panels.

L. **STOP Button (Horizontal Spindle \( \Phi \))**: Stops horizontal spindle rotation.

M. **Emergency STOP Button**: Only disables power to all horizontal spindle controls in both panels, and stops horizontal spindle rotation. To reset, twist the button clockwise until it pops out.

N. **Reverse Button (Horizontal Spindle \( \Phi \))**: Starts horizontal spindle reverse rotation (clockwise as viewed from the front of the machine).

Power Feed

Figure 4. Power feed components.

A. **Limit Switch**: Stops powered table movement when either of the side plungers come in contact with the limit stops.

B. **Limit Stop**: Limits X-axis table travel (one on either end of the table).

C. **Graduated Dial**: Displays X-axis table movement in 0.001” increments, with each revolution equaling 0.200” of travel.

D. **Handwheel**: Manually positions the table.

E. **Directional Lever**: Selects the direction of table movement. The center position is neutral.

F. **Speed Dial**: Controls the speed of table movement. Turning the dial clockwise causes the table to move faster.

**Note**: Feed rates for table travel are extremely difficult to precisely calculate. We recommend that you combine research and experimentation to find the feed rates that best work for your operations.

G. **Reset Button**: Resets the internal circuit breaker if the unit is overloaded and shuts down.

H. **ON/OFF Switch**: Enables/disables power to the unit.

I. **Rapid Traverse Button**: Once the directional lever has been activated, causes the table to travel at full speed while pushed.
### Model G0757 9" x 39" 2 HP Horizontal/Vertical Mill with Power Feed

#### Product Dimensions:
- **Weight**: 1874 lbs.
- **Width (side-to-side) x Depth (front-to-back) x Height**: 53-1/2 x 54-7/8 x 81-7/8 in.
- **Footprint (Length x Width)**: 35-1/2 x 20 in.
- **Space Required for Full Range of Movement (Width x Depth)**: 76 x 57-7/8 in.

#### Shipping Dimensions:
- **Type**: Wood Crate
- **Content**: Machine
- **Weight**: 2050 lbs.
- **Length x Width x Height**: 52-3/4 x 45 x 87-1/2 in.
- **Must Ship Upright**: Yes

#### Electrical:
- **Power Requirement**: 220V, Single-Phase, 60 Hz
- **Full-Load Current Rating**: 13.2A
- **Minimum Circuit Size**: 20 A
- **Power Cord Included**: Yes
- **Power Cord Length**: 6-1/2 ft.
- **Power Cord Gauge**: 14 AWG
- **Plug Included**: No
- **Recommended Plug Type**: 6-20

#### Motors:
**Coolant Pump**
- **Horsepower**: 40W
- **Phase**: Single-Phase
- **Amps**: 0.2A
- **Speed**: 2800 RPM
- **Type**: TEFC Permanent-Split Capacitor
- **Power Transfer**: Direct Drive
- **Bearings**: Ball Bearings
- **Centrifugal Switch/Contacts Type**: N/A

**Vertical Spindle**
- **Horsepower**: 3 HP
- **Phase**: Single-Phase
- **Amps**: 13A
- **Speed**: 1725 RPM
- **Type**: TEFC Capacitor-Start Induction
- **Power Transfer**: V-Belt Drive
- **Bearings**: Ball Bearings
- **Centrifugal Switch/Contacts Type**: Internal
Main Specifications:

Operation Info

Spindle Travel............................................................................................................................. 5 in.
Max Distance Spindle to Column.................................................................................................. 26-3/4 in.
Max Distance Spindle to Table................................................................................................... 14-1/2 in.
Maximum Distance Horizontal Spindle Center to Table.............................................................. 14-1/8 in.
Longitudinal Table Travel (X-Axis)............................................................................................... 23-1/2 in.
Cross Table Travel (Y-Axis).......................................................................................................... 8-1/2 in.
Vertical Table Travel (Z-Axis)...................................................................................................... 12-1/2 in.
Table Swivel (Left/Right)........................................................................................................... 45 Deg.
Ram Travel..................................................................................................................................... 11 in.
Turret or Column Swivel (Left /Right).......................................................................................... 180 deg.
Head Tilt (Left/Right).................................................................................................................. 90 deg.
Drilling Capacity for Cast Iron.................................................................................................... 1-1/8 in.
Drilling Capacity for Steel........................................................................................................... 1 in.
End Milling Capacity.................................................................................................................... 1 in.
Face Milling Capacity................................................................................................................... 4 in.

Table Info

Table Length............................................................................................................................... 39-3/8 in.
Table Width................................................................................................................................... 9-1/2 in.
Table Thickness.......................................................................................................................... 2-3/8 in.
Number of T-Slots....................................................................................................................... 3
T-Slot Size....................................................................................................................................... 5/8 in.
T-Slots Centers............................................................................................................................ 3 in.
Number of Longitudinal Feeds..................................................................................................... Variable
X-Axis Table Power Feed Rate...................................................................................................... 0 – 11.67 FPM
X/Y-Axis Travel per Handwheel Revolution............................................................................... 0.200 in.
Z-Axis Travel per Handwheel Revolution................................................................................... 0.200 in.

Spindle Info

Spindle Taper............................................................................................................................... R-8
Number of Vertical Spindle Speeds............................................................................................. 9
Range of Vertical Spindle Speeds................................................................................................. 285 – 2300 RPM
Quill Diameter............................................................................................................................. 3-1/2 in.
Drawbar Thread Size.................................................................................................................... 7/16-20
Drawbar Length.......................................................................................................................... 20, 13-3/4 in.
Spindle Bearings........................................................................................................................... Tapered Roller Bearings (P5)
Horizontal Spindle Taper............................................................................................................. R-8
Number of Horizontal Spindle Speeds.......................................................................................... 8
Range of Horizontal Spindle Speeds............................................................................................ 72 – 1300 RPM
Horizontal Spindle Bearing Type................................................................................................. Tapered Roller Bearings (P5)

Construction

Spindle Housing/Quill.................................................................................................................... Chromed Cast Iron
Table............................................................................................................................................... Precision-Ground Cast Iron
Head............................................................................................................................................... Cast Iron
Column/Base................................................................................................................................... Cast Iron
Other Specifications:

Country of Origin ................................................................. China
Warranty ...................................................................................... 1 Year
Serial Number Location ........................................................... Machine ID Label on Head
ISO 9001 Factory ........................................................................ Yes

Features:

Recycling Coolant System
Longitudinal Power Feed
High-Precision P5 Spindle Bearings
Halogen Work Light

Accessories Included:

Arbor Adapter, R-8 to MT#3
Horizontal Arbors w/Spacers, 1-1/4" & 1"
1-13mm Drill Chuck w/Key & Arbor
MT#3 to MT#2 Adapter Sleeve
T-Bolts w/Washers & Nuts
Service Tools & Tool Box
For Your Own Safety, Read Instruction Manual Before Operating This Machine

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures. Always use common sense and good judgment.

**DANGER** Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.

**WARNING** Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.

**CAUTION** Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury. It may also be used to alert against unsafe practices.

**NOTICE** Alerts the user to useful information about proper operation of the machine to avoid machine damage.

**WARNING**

**OWNER’S MANUAL.** Read and understand this owner’s manual BEFORE using machine.

**TRAINED OPERATORS ONLY.** Untrained operators have a higher risk of being hurt or killed. Only allow trained/supervised people to use this machine. When machine is not being used, disconnect power, remove switch keys, or lock-out machine to prevent unauthorized use—especially around children. Make your workshop kid proof!

**DANGEROUS ENVIRONMENTS.** Do not use machinery in areas that are wet, cluttered, or have poor lighting. Operating machinery in these areas greatly increases the risk of accidents and injury.

**MENTAL ALERTNESS REQUIRED.** Full mental alertness is required for safe operation of machinery. Never operate under the influence of drugs or alcohol, when tired, or when distracted.

**ELECTRICAL EQUIPMENT INJURY RISKS.** You can be shocked, burned, or killed by touching live electrical components or improperly grounded machinery. To reduce this risk, only allow qualified service personnel to do electrical installation or repair work, and always disconnect power before accessing or exposing electrical equipment.

**DISCONNECT POWER FIRST.** Always disconnect machine from power supply BEFORE making adjustments, changing tooling, or servicing machine. This prevents an injury risk from unintended startup or contact with live electrical components.

**EYE PROTECTION.** Always wear ANSI-approved safety glasses or a face shield when operating or observing machinery to reduce the risk of eye injury or blindness from flying particles. Everyday eyeglasses are NOT approved safety glasses.
WEARING PROPER APPAREL. Do not wear clothing, apparel or jewelry that can become entangled in moving parts. Always tie back or cover long hair. Wear non-slip footwear to reduce risk of slipping and losing control or accidentally contacting cutting tool or moving parts.

HAZARDOUS DUST. Dust created by machinery operations may cause cancer, birth defects, or long-term respiratory damage. Be aware of dust hazards associated with each workpiece material. Always wear a NIOSH-approved respirator to reduce your risk.

HEARING PROTECTION. Always wear hearing protection when operating or observing loud machinery. Extended exposure to this noise without hearing protection can cause permanent hearing loss.

REMOVE ADJUSTING TOOLS. Tools left on machinery can become dangerous projectiles upon startup. Never leave chuck keys, wrenches, or any other tools on machine. Always verify removal before starting!

USE CORRECT TOOL FOR THE JOB. Only use this tool for its intended purpose—do not force it or an attachment to do a job for which it was not designed. Never make unapproved modifications—modifying tool or using it differently than intended may result in malfunction or mechanical failure that can lead to personal injury or death!

AWKWARD POSITIONS. Keep proper footing and balance at all times when operating machine. Do not overreach! Avoid awkward hand positions that make workpiece control difficult or increase the risk of accidental injury.

CHILDREN & Bystanders. Keep children and bystanders at a safe distance from the work area. Stop using machine if they become a distraction.

GUARDS & COVERS. Guards and covers reduce accidental contact with moving parts or flying debris. Make sure they are properly installed, undamaged, and working correctly BEFORE operating machine.

FORCING MACHINERY. Do not force machine. It will do the job safer and better at the rate for which it was designed.

NEVER STAND ON MACHINE. Serious injury may occur if machine is tipped or if the cutting tool is unintentionally contacted.

STABLE MACHINE. Unexpected movement during operation greatly increases risk of injury or loss of control. Before starting, verify machine is stable and mobile base (if used) is locked.

USE RECOMMENDED ACCESSORIES. Consult this owner’s manual or the manufacturer for recommended accessories. Using improper accessories will increase the risk of serious injury.

UNATTENDED OPERATION. To reduce the risk of accidental injury, turn machine OFF and ensure all moving parts completely stop before walking away. Never leave machine running while unattended.

MAINTAIN WITH CARE. Follow all maintenance instructions and lubrication schedules to keep machine in good working condition. A machine that is improperly maintained could malfunction, leading to serious personal injury or death.

DAMAGED PARTS. Regularly inspect machine for damaged, loose, or mis-adjusted parts—or any condition that could affect safe operation. Immediately repair/replace BEFORE operating machine. For your own safety, DO NOT operate machine with damaged parts!

MAINTAIN POWER CORDS. When disconnecting cord-connected machines from power, grab and pull the plug—NOT the cord. Pulling the cord may damage the wires inside. Do not handle cord/plug with wet hands. Avoid cord damage by keeping it away from heated surfaces, high traffic areas, harsh chemicals, and wet/damp locations.

EXPERIENCING DIFFICULTIES. If at any time you experience difficulties performing the intended operation, stop using the machine! Contact our Technical Support at (570) 546-9663.
WARNING
Additional Safety for Milling Machines

UNDERSTANDING CONTROLS: The mill is a complex machine that presents severe cutting or amputation hazards if used incorrectly. Make sure you understand the use and operation of all controls before you begin milling.

SAFETY ACCESSORIES: Flying chips or debris from the cutting operation can cause eye injury or blindness. Always use safety glasses or a face shield when milling.

WORK HOLDING: Milling a workpiece that is not properly secured to the table or in a vise could cause the workpiece to fly into the operator with deadly force! Before starting the machine, be certain the workpiece has been properly clamped to the table. NEVER hold the workpiece by hand during operation.

SPINDLE SPEED: To avoid tool or workpiece breakage that could send flying debris at the operator and bystanders, use the correct spindle speed for the operation. Allow the spindle to gain full speed before beginning the cut.

SPINDLE DIRECTION CHANGE: Changing spindle rotation direction while it is spinning could lead to impact injury from broken tool or workpiece debris, and workpiece or machine damage. ALWAYS make sure the spindle is at a complete stop before changing spindle direction.

STOPPING SPINDLE: To reduce the risk of hand injuries or entanglement hazards, DO NOT attempt to stop the spindle with your hand or a tool. Allow the spindle to stop on its own or use the spindle brake.

CHIP CLEANUP: Chips from the operation are sharp and hot, which can cause burns or cuts. Using compressed air to clear chips could cause them to fly into your eyes, and may drive them deep into the working parts of the machine. Use a brush or vacuum to clear away chips and debris from machine or workpiece and NEVER clear chips while spindle is turning.

MACHINE CARE & MAINTENANCE: Operating the mill with excessively worn or damaged machine parts increases risk of machine or workpiece breakage which could eject hazardous debris at the operator. To reduce this risk, maintain the mill in proper working condition by ALWAYS promptly performing routine inspections and maintenance.

CUTTING TOOL USAGE: Cutting tools have very sharp leading edges—handle them with care! Using cutting tools that are in good condition helps to ensure quality milling results and reduces risk of personal injury from broken tool debris. Inspect cutting tools for sharpness, chips, or cracks before each use, and ALWAYS make sure cutting tools are firmly held in place before starting the machine.

WARNING
Like all machinery there is potential danger when operating this machine. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this machine with respect and caution to decrease the risk of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

CAUTION
No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other machinery with caution and respect. Failure to do so could result in serious personal injury, damage to equipment, or poor work results.
SECTION 2: POWER SUPPLY

Availability
Before installing the machine, consider the availability and proximity of the required power supply circuit. If an existing circuit does not meet the requirements for this machine, a new circuit must be installed. To minimize the risk of electrocution, fire, or equipment damage, installation work and electrical wiring must be done by an electrician or qualified service personnel in accordance with all applicable codes and standards.

WARNING
Electrocution, fire, or equipment damage may occur if machine is not correctly grounded and connected to the power supply.

Full-Load Current Rating
The full-load current rating is the amperage a machine draws at 100% of the rated output power. On machines with multiple motors, this is the amperage drawn by the largest motor or sum of all motors and electrical devices that might operate at one time during normal operations.

Full-Load Current Rating at 220V: 13.2 Amps
The full-load current is not the maximum amount of amps that the machine will draw. If the machine is overloaded, it will draw additional amps beyond the full-load rating.

If the machine is overloaded for a sufficient length of time, damage, overheating, or fire may result—especially if connected to an undersized circuit. To reduce the risk of these hazards, avoid overloading the machine during operation and make sure it is connected to a power supply circuit that meets the requirements in the following section.

Circuit Requirements for 220V
This machine is prewired to operate on a 220V power supply circuit that has a verified ground and meets the following requirements:

- Nominal Voltage: 220V/240V
- Cycle: 60 Hz
- Phase: 1-Phase
- Power Supply Circuit: 20 Amps
- Plug/Receptacle: NEMA 6-20

A power supply circuit includes all electrical equipment between the breaker box or fuse panel in the building and the machine. The power supply circuit used for this machine must be sized to safely handle the full-load current drawn from the machine for an extended period of time. (If this machine is connected to a circuit protected by fuses, use a time delay fuse marked D.)

CAUTION
For your own safety and protection of property, consult an electrician if you are unsure about wiring practices or electrical codes in your area.

Note: The circuit requirements listed in this manual apply to a dedicated circuit—where only one machine will be running at a time. If this machine will be connected to a shared circuit where multiple machines will be running at the same time, consult a qualified electrician to ensure that the circuit is properly sized for safe operation.
**Grounding Instructions**

This machine MUST be grounded. In the event of certain malfunctions or breakdowns, grounding reduces the risk of electric shock by providing a path of least resistance for electric current.

The power cord and plug specified under “Circuit Requirements for 220V” on the previous page has an equipment-grounding wire and a grounding prong. The plug must only be inserted into a matching receptacle (outlet) that is properly installed and grounded in accordance with all local codes and ordinances (see figure below).

![Grounded 6-20 Receptacle](image)

Figure 5. Typical 6-20 plug and receptacle.

**WARNING**

Serious injury could occur if you connect the machine to power before completing the setup process. DO NOT connect to power until instructed later in this manual.

Improper connection of the equipment-grounding wire can result in a risk of electric shock. The wire with green insulation (with or without yellow stripes) is the equipment-grounding wire. If repair or replacement of the power cord or plug is necessary, do not connect the equipment-grounding wire to a live (current carrying) terminal.

Check with a qualified electrician or service personnel if you do not understand these grounding requirements, or if you are in doubt about whether the tool is properly grounded. If you ever notice that a cord or plug is damaged or worn, disconnect it from power, and immediately replace it with a new one.

**Extension Cords**

We do not recommend using an extension cord with this machine. If you must use an extension cord, only use it if absolutely necessary and only on a temporary basis.

Extension cords cause voltage drop, which may damage electrical components and shorten motor life. Voltage drop increases as the extension cord size gets longer and the gauge size gets smaller (higher gauge numbers indicate smaller sizes).

Any extension cord used with this machine must contain a ground wire, match the required plug and receptacle, and meet the following requirements:

Minimum Gauge Size .........................12 AWG
Maximum Length (Shorter is Better).......50 ft.
SECTION 3: SETUP

Unpacking

Your machine was carefully packaged for safe transportation. Remove the packaging materials from around your machine and inspect it. If you discover any damage, please call us immediately at (570) 546-9663 for advice.

Save the containers and all packing materials for possible inspection by the carrier or its agent. Otherwise, filing a freight claim can be difficult.

When you are completely satisfied with the condition of your shipment, inventory the contents.

---

WARNING

SUFFOCATION HAZARD!

Keep children and pets away from plastic bags or packing materials shipped with this machine. Discard immediately.

---

Needed for Setup

The following are needed to complete the setup process, but are not included with your machine.

For Lifting (Page 19)
- A forklift or other power lifting device rated for 50% more than the weight of the machine.
- Two lifting straps and a chain with a safety hook, each rated for 50% more than the weight of the machine.
- At least two other persons to help with the operation.
- Safety glasses for each person.

For Cleanup
- Cotton disposable rags.
- Cleaner/degreaser (see Page 17).

For Power Connection
- We recommend a qualified electrician to ensure a safe and code-compliant connection to the power source (refer to Page 13 for details).
Inventory

The following is a list of items shipped with your machine. Before beginning setup, lay these items out and inventory them.

If any non-proprietary parts are missing (e.g. a nut or a washer), we will gladly replace them; or for the sake of expediency, replacements can be obtained at your local hardware store.

Small Item Inventory (see Figure 6):

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Open-End Wrenches 17/19, 22/24mm</td>
<td>1 Ea</td>
</tr>
<tr>
<td>B. Bottle for Oil</td>
<td>1</td>
</tr>
<tr>
<td>C. Toolbox</td>
<td>1</td>
</tr>
<tr>
<td>D. Spindle Sleeve R-8–MT#3</td>
<td>1</td>
</tr>
<tr>
<td>E. End Mill Arbor R-8–1”</td>
<td>1</td>
</tr>
<tr>
<td>F. Drill Chuck Arbor R-8–B16</td>
<td>1</td>
</tr>
<tr>
<td>G. Spindle Sleeve MT#3–MT#2</td>
<td>1</td>
</tr>
<tr>
<td>H. Drill Chuck B16, 1–13mm w/Chuck Key</td>
<td>1</td>
</tr>
<tr>
<td>I. T-Bolts M14-2 x 60</td>
<td>2</td>
</tr>
<tr>
<td>— Flat Washers 14mm</td>
<td>2</td>
</tr>
<tr>
<td>— Hex Nuts M14-2</td>
<td>2</td>
</tr>
<tr>
<td>J. Hex Wrenches 8, 6, 5, 4, 3mm</td>
<td>1 Ea</td>
</tr>
<tr>
<td>K. Horizontal Arbor 1¼” Dia. w/Spacers</td>
<td>1</td>
</tr>
<tr>
<td>L. Horizontal Arbor 1” Dia. w/Spacers</td>
<td>1</td>
</tr>
<tr>
<td>M. Vertical Spindle Drawbar 7/16—20 x 20”</td>
<td>1</td>
</tr>
<tr>
<td>N. Horizontal Spindle Drawbar 7/16—20 x 13¾”</td>
<td>1</td>
</tr>
</tbody>
</table>

NOTICE

If you cannot find an item on this list, carefully check around/inside the machine and packaging materials. Often, these items get lost in packaging materials while unpacking or they are pre-installed at the factory.
The unpainted surfaces of your machine are coated with a heavy-duty rust preventative that prevents corrosion during shipment and storage. This rust preventative works extremely well, but it will take a little time to clean.

Be patient and do a thorough job cleaning your machine. The time you spend doing this now will give you a better appreciation for the proper care of your machine’s unpainted surfaces.

There are many ways to remove this rust preventative, but the following steps work well in a wide variety of situations. Always follow the manufacturer’s instructions with any cleaning product you use and make sure you work in a well-ventilated area to minimize exposure to toxic fumes.

Before cleaning, gather the following:
- Disposable rags
- Cleaner/degreaser (WD•40 works well)
- Safety glasses & disposable gloves
- Plastic paint scraper (optional)

Basic steps for removing rust preventative:

1. Put on safety glasses.

2. Coat the rust preventative with a liberal amount of cleaner/degreaser, then let it soak for 5–10 minutes.

3. Wipe off the surfaces. If your cleaner/degreaser is effective, the rust preventative will wipe off easily. If you have a plastic paint scraper, scrape off as much as you can first, then wipe off the rest with the rag.

4. Repeat Steps 2–3 as necessary until clean, then coat all unpainted surfaces with a quality metal protectant to prevent rust.

Gasoline and petroleum products have low flash points and can explode or cause fire if used to clean machinery. Avoid using these products to clean machinery.

Many cleaning solvents are toxic if inhaled. Only work in a well-ventilated area.

Avoid harsh solvents like acetone or brake parts cleaner that may damage painted surfaces. Always test on a small, inconspicuous location first.

T23692—Orange Power Degreaser
A great product for removing the waxy shipping grease from the non-painted parts of the machine during clean up.
Site Considerations

Weight Load
Refer to the Machine Data Sheet for the weight of your machine. Make sure that the surface upon which the machine is placed will bear the weight of the machine, additional equipment that may be installed on the machine, and the heaviest workpiece that will be used. Additionally, consider the weight of the operator and any dynamic loading that may occur when operating the machine.

Space Allocation
Consider the largest size of workpiece that will be processed through this machine and provide enough space around the machine for adequate operator material handling or the installation of auxiliary equipment. With permanent installations, leave enough space around the machine to open or remove doors/covers as required by the maintenance and service described in this manual. See below for required space allocation.

Physical Environment
The physical environment where the machine is operated is important for safe operation and longevity of machine components. For best results, operate this machine in a dry environment that is free from excessive moisture, hazardous chemicals, airborne abrasives, or extreme conditions. Extreme conditions for this type of machinery are generally those where the ambient temperature range exceeds 41°–104°F; the relative humidity range exceeds 20–95% (non-condensing); or the environment is subject to vibration, shocks, or bumps.

Electrical Installation
Place this machine near an existing power source. Make sure all power cords are protected from traffic, material handling, moisture, chemicals, or other hazards. Make sure to leave access to a means of disconnecting the power source or engaging a lockout/tagout device, if required.

Lighting
Lighting around the machine must be adequate enough that operations can be performed safely. Shadows, glare, or strobe effects that may distract or impede the operator must be eliminated.

Figure 8. Minimum working clearances.
Lifting & Placing

![WARNING](image)

HEAVY LIFT!
Straining or crushing injury may occur from improperly lifting machine or some of its parts. To reduce this risk, get help from other people and use a forklift (or other lifting equipment) rated for weight of this machine.

Power lifting equipment rated for at least 50% more than the weight of the machine and at least two other people are required to lift and place the mill.

To lift and move the mill:

1. Remove crate from shipping pallet then, while still on pallet, move machine to installation location.

2. Rotate ram 180° so headstock faces backwards (see Figure 9), then rotate head upright.

Refer to Head Tilt on Page 26 and Ram Movement on Page 27 for detailed instructions to help with this step.

3. Torque the four turret lock bolts (two on each side of ram, as shown in Figure 10) to 47 ft/lbs. This will help keep ram from unexpectedly moving from force of lifting straps.

![Figure 10. Locations of turret locking bolts.](image)

4. Place lifting straps under ram and connect to a safety hook, as illustrated in Figure 9.

**Note:** Place protective material between straps and mill to protect ram and ways, and to prevent cutting lifting straps.

5. Unbolt mill from shipping pallet.

6. With other people steadying the load to keep it from swaying, lift machine a couple of inches.

   —If mill tips to one side, lower it to the pallet and adjust ram or table to balance load. Make sure to retighten lock levers and bolts before lifting mill again.

   —If mill lifts evenly, remove shipping pallet and lower mill.
Leveling

Leveling machinery helps precision components, such as dovetail ways, remain straight and flat during the lifespan of the machine. Components on an unleveled machine may slowly twist due to the dynamic loads placed on the machine during operation.

For best results, use a precision level that is at least 12" long and sensitive enough to show a distinct movement when a 0.003" shim (approximately the thickness of one sheet of standard newspaper) is placed under one end of the level.

See Figure 11 for an example of a high precision level available from Grizzly.

![Leveling Machinery](image)

Figure 11. Example of a precision level (Model H2683 shown).

Anchoring to Floor

Anchoring machinery to the floor prevents tipping or shifting and reduces vibration that may occur during operation, resulting in a machine that runs slightly quieter and feels more solid.

If the machine will be installed in a commercial or workplace setting, or if it is permanently connected (hardwired) to the power supply, local codes may require that it be anchored to the floor.

If not required by any local codes, fastening the machine to the floor is an optional step. If you choose not to do this with your machine, we recommend placing it on machine mounts, as these provide an easy method for leveling and they have vibration-absorbing pads.

Anchoring to Concrete Floors

Lag shield anchors with lag screws (see below) are a popular way to anchor machinery to a concrete floor, because the anchors sit flush with the floor surface, making it easy to unbolt and move the machine later, if needed. However, anytime local codes apply, you MUST follow the anchoring methodology specified by the code.

![Anchoring to Concrete Floors](image)

Figure 12. Popular method for anchoring machinery to a concrete floor.
Test Run

Once assembly is complete, test run the machine to ensure it is properly connected to power and safety components function properly.

During the test run, you will check for proper operation of the vertical and horizontal spindle motors, the Emergency STOP buttons, and the power feed unit.

If you find an unusual problem during the test run, immediately stop the machine, disconnect it from power, and fix the problem BEFORE operating the machine again. The Troubleshooting table in the SERVICE section of this manual can help.

WARNING
Serious injury or death can result from using this machine BEFORE understanding its controls and related safety information. DO NOT operate, or allow others to operate, machine until the information is understood.

WARNING
DO NOT start machine until all preceding setup instructions have been performed. Operating an improperly set up machine may result in malfunction or unexpected results that can lead to serious injury, death, or machine/property damage.

Mill Test Run

1. Read and follow the safety instructions at the beginning of the manual, take required safety precautions, and make sure the machine is set up and adjusted properly.

2. Clear away all tools and objects used during assembly and preparation.

3. Make sure mill is properly lubricated (refer to Lubrication section beginning on Page 41 for specific details).


5. Push both Emergency STOP buttons to avoid unexpected start up when machine is connected to power.


7. Turn master power switch ON.

8. Twist both Emergency STOP buttons clockwise until they pop out—this resets them for operation (see Figure 13).

9. Press Power Lamp button on master control panel to enable power to all control panels—the button should light.

10. Start vertical spindle forward rotation.

11. Listen for abnormal noises and watch for anything unexpected from the mill. The mill should run smoothly and without excessive vibration or rubbing noises.

—Strange or unusual noises or actions must be investigated immediately. Turn the machine OFF and disconnect it from the power source before investigating or correcting potential problems.

Figure 13. Resetting the Emergency STOP button.

Model G0757 (Mfg. Since 6/13)
12. Stop spindle rotation and wait for spindle to completely stop.

13. Repeat Steps 11–12 with vertical spindle reverse rotation.


15. Press Emergency STOP button on master control panel.

16. WITHOUT resetting the Emergency STOP button, attempt to start vertical spindle rotation. The machine should not start.

—If the machine does start (with the Emergency STOP button pushed in), immediately disconnect power to the machine. The Emergency STOP button safety feature is not working correctly. This safety feature must work properly before proceeding with regular operations. Call Tech Support for help.

17. Reset Emergency STOP button.

18. Repeat Steps 15–17 with horizontal spindle control sub-panel and horizontal spindle.

**Power Feed Test Run**

The mill comes with a power feed unit for X-axis table travel. Proper operation of the limit switch attached to the front middle of the table is critical for the safe use of this power feed unit. If the power feed does not operate as expected during the following steps, disconnect it from power and contact our Tech Support at (570) 546-9663 for assistance.

**To test the power feed:**

1. Make sure all tools, cables, and other items are well clear of table movement as you follow these steps.

2. Refer to Power Feed identification on Page 6, to understand how power feed, table locks, and limit switch function.

3. Loosen table locks on the front of table.

4. Make sure power feed directional lever is in neutral (middle) position, turn speed dial counterclockwise to lowest setting, then turn power feed ON.

5. Move direction knob to the left, slowly rotate speed dial clockwise to increase speed, then confirm table is moving left.

6. Watch for table limit stop to hit limit switch and turn the power feed OFF, stopping table movement.

7. Move direction knob through the neutral (middle) position and all the way right. Table should begin moving right.

8. Confirm table stops moving when limit stop presses against limit switch plunger.

9. Move direction knob to the neutral (middle) position, turn speed dial counterclockwise to lowest setting, and turn power feed OFF.

Congratulations! The Test Run of the mill is complete. Continue to the next page to perform the Spindle Break-In and Inspections & Adjustments procedures.
Spindle Break-In

Before placing operational loads on the spindle, complete this break-in procedure to fully distribute lubrication throughout the bearings and help ensure trouble-free performance.

**NOTICE**
Failure to complete the spindle break-in process may lead to premature failure of the bearings—this will not be covered under warranty.

To perform the spindle break-in procedure:

1. **DISCONNECT MACHINE FROM POWER!**
2. Set up vertical spindle for lowest spindle speed (refer to Spindle Speed, beginning on Page 31 for detailed instructions).

**NOTICE**
Do not leave the machine unattended during the Spindle Break-In procedure. If your attention is needed elsewhere during this procedure, stop the machine and restart the procedure later from the beginning.

3. Connect machine to power, and run vertical spindle for a minimum of 5 minutes.
4. Repeat Step 3 for each spindle speed, working to progressively higher speeds.
5. Repeat Steps 2–4 with horizontal spindle.
6. Check tension of all V-belts, and retension if necessary (refer to V-Belt Service on Page 50 for detailed instructions).

The spindle break-in is now complete!

Inspections & Adjustments

The following list of adjustments were performed at the factory before the machine was shipped:

- Gib Adjustments ......................... Page 52
- X-Axis Leadscrew Backlash .......... Page 53

Be aware that machine components can shift during the shipping process. Pay careful attention to these adjustments during operation of the machine. If you find that the adjustments are not set according to the procedures in this manual or your personal preferences, re-adjust them.

**NOTICE**
Since the head has been moved around for shipping purposes, you will need to tram it so that the spindle is perpendicular to the table. Refer to the Tramming the Mill section on Page 34 for detailed instructions.

**NOTICE**
After the first 16 hours of use, the V-belts will stretch and seat into the pulley grooves. The V-belts must be properly retensioned after this period to ensure proper power transmission and avoid reducing the life of the belts. Refer to V-Belt Service on Page 50 for detailed instructions.
SECTION 4: OPERATIONS

Operation Overview

The purpose of this overview is to provide the novice machine operator with a basic understanding of how the machine is used during operation, so the machine controls/components discussed later in this manual are easier to understand.

Due to the generic nature of this overview, it is not intended to be an instructional guide. To learn more about specific operations, read this entire manual and seek additional training from experienced machine operators, and do additional research outside of this manual by reading "how-to" books, trade magazines, or websites.

To complete a typical operation, the operator does the following:

1. Examines the workpiece to make sure it is suitable for the operation.
2. Firmly clamps the workpiece to the table or a mill vise.
3. Installs the correct cutting tool for the operation.
4. Uses the downfeed and table controls to correctly position the cutting tool and workpiece for the operation. If the X-axis power feed will be used during the operation, the operator confirms the speed and length of table movement required.
5. Configures the machine for the correct spindle speed of the operation.
6. Puts on personal protective gear, and makes sure the workpiece and table are clear of all tools, cords, and other items.
7. Starts the spindle rotation and performs the operation.
8. Turns the machine OFF.

To reduce your risk of serious injury, read this entire manual BEFORE using machine.

To reduce risk of eye or face injury from flying chips, always wear approved safety glasses and a face shield when operating this machine.

If you are not experienced with this type of machine, WE STRONGLY RECOMMEND that you seek additional training outside of this manual. Read books/magazines or get formal training before beginning any projects. Regardless of the content in this section, Grizzly Industrial will not be held liable for accidents caused by lack of training.
Table Movement

The mill table travels in three directions, as illustrated in Figure 14.

These movements are controlled by table handwheels and the Z-axis crank. Additionally, the table can be moved along the X-axis with the power feed and rotated 45° left and right.

**X-Axis or Longitudinal Travel** (Left & Right)

**Y-Axis or Cross Travel** (In & Out)

**Z-Axis or Vertical Elevation** (Up & Down)

*Figure 14.* The directions of table movement.

**Graduated Index Rings**

The table handwheels and knee crank have graduated rings (see Figure 15) that are used to determine table movement in 0.001" increments with one full revolution equaling 0.200" of travel.

Additionally, each dial has a thumbscrew that is used to adjust the dial to zero.

*Figure 15.* Locations of graduated rings.

**Table Locks**

Use table locks to increase the rigidity of the table when movement in that direction is not required for the operation.

Refer to Figure 16 to identify the locks for each table axis.

*Figure 16.* Locations of table locks.

**NOTICE**

Always keep the table locked in place unless table movement is required for your operation. Unexpected table and workpiece movement could cause the tooling to bind with the workpiece, which may damage the tooling or the workpiece.
Table Rotation

The table rotates 45° left or right (see Figure 17).

![Figure 17. Table rotated 45° to the right.](image)

**Tool Needed**

| Qty | Wrench 19mm | 1 |

**To rotate the table:**

1. DISCONNECT MACHINE FROM POWER!

2. Remove as many items from table as possible. This makes rotating the table easier.

3. Loosen the four hex nuts that secure table to knee (see Figure 17).

   **Note:** There are two hex nuts behind the table as well.

4. Using the angle scale on knee as a guide, rotate table to desired position.

5. Retighten the four hex nuts that secure table to knee before resuming operation.

---

Head Tilt

The head tilts 90° left or right at the end of the ram.

**Tools Needed**

| Qty | Wrench 19mm | 1 |
| Qty | Wrench 24mm | 1 |

**To tilt the head:**

1. DISCONNECT MACHINE FROM POWER!

2. Loosen the three hex nuts (one on each side of head and one underneath) that secure head to ram (see Figure 18).

![Figure 18. Head tilting controls.](image)

3. With assistance from another person to support the head, turn tilting bolt until head is in desired position.

   **Note:** Use the angle scale shown in Figure 18 as a guide for setting tilt angle.

4. Retighten hex nuts that secure head to ram before resuming operation.

---

**NOTICE**

When tilting the head back to 90°, you will need to tram it to ensure the spindle is perpendicular to the table. Refer to the Tramming the Mill section on Page 34 for detailed instructions.
Ram Movement

The ram travels forward/backward 11" and rotates 180° on the turret.

Tools Needed

<table>
<thead>
<tr>
<th>Tool Description</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wrench 15mm</td>
<td>1</td>
</tr>
<tr>
<td>Wrench 24mm</td>
<td>1</td>
</tr>
</tbody>
</table>

Moving Ram Forward/Backward

1. DISCONNECT MACHINE FROM POWER!

2. Loosen the two lock handles shown in Figure 19.

3. Rotate pinion gear bolt to move ram until spindle is in desired position.

4. Retighten lock handles to secure ram movement before resuming operation.

Rotating Ram On Turret

1. DISCONNECT MACHINE FROM POWER!

2. Loosen the four hex nuts (two on each side of the ram) that secure ram to turret (see Figure 20).

3. Make sure that cables and hoses are not entangled or stretched as you move ram on turret.

4. Retighten the four hex nuts that secure the ram on turret before resuming operation.
Loading/Unloading Tooling

Vertical Spindle
Tooling is held in the vertical spindle by a combination of the R-8 taper, a pin inside the spindle, and a $\frac{7}{16}$"-20 drawbar.

<table>
<thead>
<tr>
<th>Tools Needed</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wrench 19mm</td>
<td>1</td>
</tr>
<tr>
<td>Brass Hammer</td>
<td>1</td>
</tr>
</tbody>
</table>

To load tooling:

1. **DISCONNECT MACHINE FROM POWER!**
2. Clean any debris or surface substances from inside spindle taper and mating surface of tooling.
   
   **Note:** Debris or oily substances can prevent tooling and spindle from properly mating. This condition can cause excessive vibration, poor cutting results, or tool/workpiece damage.
3. Align tooling keyway with pin inside spindle taper, then firmly push tooling into spindle to seat it.
4. With one hand holding the tooling in place, insert vertical drawbar (longer of two drawbars) into spindle from the top of the head, then thread it into tooling (see Figure 21).
   
   **Note:** The drawbar has an adjustment hex nut under the head that is used to raise/lower the drawbar to compensate for different tooling lengths.
5. Tighten drawbar until it is snug. Avoid overtightening, as this could make removing tooling difficult later.

To unload tooling:

1. **DISCONNECT MACHINE FROM POWER!**
2. Loosen drawbar a couple of turns, then tap the top of it with a brass hammer to knock taper between the spindle and tooling loose.
3. Support tooling with one hand, then completely unthread drawbar from tooling.

**CAUTION**
Cutting tools are sharp and can easily cause laceration injuries. Use heavy leather gloves or shop rags to protect your hands when handling cutting tools.
Converting to Horizontal Setup

Single or multiple cutters (gang milling) can be arranged anywhere along the length of the arbor for simple to very complex cutting operations.

The Model G0757 includes two horizontal arbors with spacers that accommodate tooling with 1" bores and 1 1/4" bores.

**Tools Needed**

- Wrench 19mm ................................................... 1
- Wrench 24mm ................................................... 1
- Wrench 32mm ................................................... 1
- Brass Hammer .................................................. 1

**To load tooling:**

1. **DISCONNECT MACHINE FROM POWER!**

2. Rotate ram 180° until horizontal arbor support is in-line with horizontal spindle (see Figure 22).

   **Note:** Make sure the "0" marks on the ram base and angle scale are aligned and the four ram rotation hex nuts are retightened.

3. Extend ram until horizontal arbor is all the way forward.

4. Loosen locking bolt on side of arbor support, and slide support off ram dovetail way.

5. Clean any debris or surface substances from inside spindle taper and mating surface of arbor.

6. Align keyway of arbor with protruding pin inside spindle taper, then firmly push arbor into spindle to seat it (see Figure 23).

7. With one hand holding arbor in place, insert horizontal drawbar (shorter of two drawbars) into spindle from rear of column, then thread it into arbor.

8. Tighten drawbar until it is snug. Avoid overtightening, as this could make removing arbor difficult later.

**CAUTION**

Cutting tools are sharp and can easily cause laceration injuries. Use heavy leather gloves or shop rags to protect your hands when handling cutting tools.
9. Add ISO 68 oil or an equivalent to horizontal spindle and arbor support ball oilers (refer to the Ball Oilers, beginning on Page 42).

10. Install cutter(s) and spacers on arbor in such a way that the last spacer is inside brass bushing and arbor threads are fully exposed as you slide arbor support back onto ram dovetail ways (see Figure 24).

11. Secure arbor support by retightening support locking bolt.

12. Secure arbor assembly with the right-hand arbor nut.

To unload tooling:

1. DISCONNECT MACHINE FROM POWER!

2. Remove arbor nut from arbor, then remove arbor support from ram dovetail ways.

   Note: Make sure drawbar has at least three threads engaged with arbor in next step to avoid damaging the drawbar threads or arbor.

3. Loosen drawbar a couple of turns, then tap end of drawbar with a brass hammer to knock taper loose between spindle and arbor.

4. Support arbor with one hand, then completely unthread drawbar from arbor.

5. Remove arbor.

6. Re-install arbor support and properly position and secure ram for the next operation.

Figure 24. Horizontal arbor and cutter installed.
**Spindle Speed**

Using the correct spindle speed is important for safe and satisfactory results, as well as maximizing tool life.

To set the spindle speed for your operation, you will need to: (1) Determine the best spindle speed for the cutting task, and (2) configure the mill controls to match the closest spindle speed.

**Determining Spindle Speed**

Many variables affect the optimum spindle speed to use for any given operation, but the two most important are the recommended cutting speed for the workpiece material and the diameter of the cutting tool, as noted in Figure 25:

\[
\text{Recommended Cutting Speed (FPM) } \times \frac{12}{\text{Tool Diameter (in inches)} \times 3.14} = \text{ RPM}
\]

*Double if using carbide cutting tool

**Figure 25.** Spindle speed formula for milling.

Cutting speed, typically defined in feet per minute (FPM), is the speed at which the edge of a tool moves across the material surface.

A recommended cutting speed is an ideal speed for cutting a type of material in order to produce the desired finish and optimize tool life.

The books *Machinery’s Handbook* or *Machine Shop Practice*, and some internet sites, provide excellent recommendations for which cutting speeds to use when calculating the spindle speed. These sources also provide a wealth of additional information about the variables that affect cutting speed and are a good educational resource.

Also, there are a large number of easy-to-use spindle speed calculators that can be found on the internet. These sources will help you take into account all applicable variables to determine the best spindle speed for the operation.

### Setting Vertical Spindle Speed

**Tools Needed**

<table>
<thead>
<tr>
<th>Tool</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wrench 22mm</td>
<td>1</td>
</tr>
<tr>
<td>Wrench 24mm</td>
<td>1</td>
</tr>
</tbody>
</table>

**To set vertical spindle speed:**

1. **DISCONNECT MACHINE FROM POWER!**
2. Remove vertical spindle V-belt covers to gain access to vertical V-belts and pulleys (see *Figure 26*).
3. Loosen center pulley hex nut.
4. Loosen the two motor mount hex bolts (one on each side of motor).
5. Use motor handle to pull motor towards the front of machine and release V-belt tension.

**Figure 26.** V-belt covers removed to gain access to vertical spindle V-belts and pulleys.
6. Arrange V-belts for desired vertical spindle speed (see Figure 27).

Note: The vertical spindle speed chart shown below is also on side of ram.

<table>
<thead>
<tr>
<th>RPM</th>
<th>Vertical Spindle Speeds</th>
</tr>
</thead>
<tbody>
<tr>
<td>285</td>
<td>D – E</td>
</tr>
<tr>
<td>390</td>
<td>C – E</td>
</tr>
<tr>
<td>490</td>
<td>D – F</td>
</tr>
<tr>
<td>585</td>
<td>B – E</td>
</tr>
<tr>
<td>665</td>
<td>C – F</td>
</tr>
<tr>
<td>860</td>
<td>D – G</td>
</tr>
<tr>
<td>1320</td>
<td>A – F</td>
</tr>
<tr>
<td>1720</td>
<td>B – G</td>
</tr>
<tr>
<td>2300</td>
<td>A – G</td>
</tr>
</tbody>
</table>

Figure 27. Vertical spindle speed chart.

7. Apply pressure on motor handle toward the back of machine to tension V-belts as you retighten center pulley hex nut and motor mount hex bolts.

Note: There is proper V-belt tension when approximately ¼” – ½” deflection is achieved (see Figure 28) by applying moderate pressure midway between pulleys.

Figure 28. Checking V-belt tension.

8. Re-install V-belt covers before connecting machine to power.

---

Setting Horizontal Spindle Speed

Tools Needed

<table>
<thead>
<tr>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wrench 24mm</td>
</tr>
<tr>
<td>Dead Blow Hammer</td>
</tr>
</tbody>
</table>

To set vertical spindle speed:

1. DISCONNECT MACHINE FROM POWER!

2. Open horizontal V-belt cover to gain access to horizontal spindle V-belts and pulleys, as shown in Figure 29.

3. Loosen tension thumbwheel and hex nut behind lower idler pulley bracket.

4. Move lower idler pulley to the right to release V-belt tension.

Note: You may have to bump the lower idler pulley with the deadblow hammer to get it to move.
5. Arrange V-belts for the desired horizontal spindle speed (see Figure 30).

Note: The horizontal spindle speed chart shown below is also on side of ram.

<table>
<thead>
<tr>
<th>RPM</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
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<tbody>
<tr>
<td>72</td>
<td>D – E</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>170</td>
<td>D – F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>210</td>
<td>D – G</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>240</td>
<td>C – E</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>290</td>
<td>B – E</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>550</td>
<td>C – F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>830</td>
<td>B – G</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>1300</td>
<td>A – F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 30. Horizontal spindle speed chart.

6. Apply pressure on lower idler pulley to the left as you tighten tension thumbwheel.

Note: There is proper V-belt tension when approximately ¼”–½” deflection is achieved (see Figure 28 on the previous page) by applying moderate pressure midway between pulleys.

7. Retighten hex nut behind lower idler pulley bracket.

8. Close and latch V-belt cover.

--

**Downfeed Controls**

Use Figure 31 and the descriptions below to understand the downfeed components that control the 5” spindle downfeed travel.

Fine Downfeed Handwheel: Manually controls slow downfeed travel. The attached graduated dial has increments of 0.001” with one full revolution representing 0.200” of travel.

Selection Lever: When tightened, enables the fine downfeed handwheel; conversely, when loosened enables the coarse downfeed levers.

Coarse Downfeed Levers: Manually control rapid downfeed travel.

Quill Lock: Secures the quill in place for increased stability during operations.
Tramming the Mill

When your operation requires that the spindle axis be precisely perpendicular to the table, you must tram the mill. Simply adjusting the headstock tilt to the 90° mark on the tilt scale will not be precise enough for highly accurate results.

This procedure involves mounting a dial indicator to the quill or spindle, rotating it around the table, and adjusting the head position so that the spindle axis is 90° to the table X-axis, as illustrated in Figure 32.

![Figure 32. Spindle centerline properly trammed to the table.](image)

**Note:** Keep in mind that the top surface of your workpiece will not likely be exactly parallel with the table top. Depending on your operation, you may choose to tram the spindle to the top surface of the workpiece after it is mounted instead of tramming to the table.

**Tools Needed**

<table>
<thead>
<tr>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dial Indicator (with at least 0.0005&quot; resolution)</td>
</tr>
<tr>
<td>Indicator Holder (mounted on quill/spindle)</td>
</tr>
<tr>
<td>Precision Parallel Block (1-2-3 Blocks)</td>
</tr>
</tbody>
</table>

**Note:** A precision-ground plate can be substituted for the parallel block. The farther the indicator point can be placed from the spindle axis, the more accurate the alignment measurements will be.

To tram the mill:

1. **DISCONNECT MACHINE FROM POWER!**
2. Prepare the machine by performing the following tasks:
   - Stone the table to remove all nicks and burrs, then clean off all debris. Verify the table is clean by running your hand over the top of it.
   - Position the table for the operation you intend to perform after tramming—preferably centered with the saddle.
   - Tighten any table locks that should be tight during the intended milling operation.
3. Place the parallel block underneath spindle.

*Continued on next page*
4. Install the indicator holder into the spindle or onto the quill, then mount the indicator onto it so that the point is as parallel to the block as possible (see the illustration in Figure 33 for an example).

![Figure 33. Dial indicator mounted.](image)

5. Place the parallel block directly under the spindle and the indicator across the length of the table, as illustrated in Figure 34.

![Figure 34. Setup for the X-axis adjustment.](image)

**Note:** Generally, the goal is to get the difference of the indicator readings between ends of the parallel bar down to 0.0005". However, the acceptable variance will depend on the requirements for your operation.

6. Rotate the spindle by hand so that the indicator point rests on one end of the parallel block, as illustrated in Figure 34, then zero the dial.

7. Rotate the spindle so that the indicator point rests in the same manner on the other end of block, then read the dial.

—If the indicator dial still reads zero or is within the acceptable variance, continue on with **Step 8**.

—If the indicator dial has moved from zero beyond the acceptable variance, you will need to compensate for 1/2 that amount by tilting the head left or right. Repeat **Steps 6–7** until you are satisfied with the spindle axis alignment along table X-axis.

**Tip:** Keep one of the tilting hex nuts snug so that the head does not move loosely while you adjust it in small amounts.

8. Retighten the tilting hex nuts.
SECTION 5: ACCESSORIES

WARNING
Installing unapproved accessories may cause machine to malfunction, resulting in serious personal injury or machine damage. To reduce this risk, only install accessories recommended for this machine by Grizzly.

NOTICE
Refer to our website or latest catalog for additional recommended accessories.

T23962—ISO 68 Moly-D Way Oil, 5 gal.
T23963—ISO 32 Moly-D Machine Oil, 5 gal.
Moly-D oils are some of the best we've found for maintaining the critical components of machinery because they tend to resist run-off and maintain their lubricity under a variety of conditions—as well as reduce chatter or slip. Buy in bulk and save with 5-gallon quantities.

Figure 36. ISO 68 and ISO 32 machine oil.

High Pressure Oil Cans
H7616—Plastic Nozzle
H7617—Flexible Plastic Nozzle
Whether you are lubricating cutting tools or maintaining machinery in top operating condition, you will appreciate these High Pressure Oil Cans. Each can holds 5 ounces of oil and has a trigger-activated, high-pressure pump.

Figure 37. High Pressure Oil Cans.

T23964—Armor Plate with Moly-D Multi-Purpose Grease, 14.5 oz. (NLGI#2 Equivalent)
Armor Plate with Moly-D is a rich green moly grease that provides excellent stability and unsurpassed performance under a wide range of temperatures and operating conditions. Armor Plate grease is entirely unique due to the fact that the moly in it is solubilized, which provides superior performance to other greases containing the black solid form of molybdenum disulfide.

Figure 35. T23964 Armor Plate with Moly-D Multi-Purpose Grease

order online at www.grizzly.com or call 1-800-523-4777
H7527—6" Rotary Table Set
Use this 6" Rotary Table in either the horizontal or vertical position for a variety of milling applications and with the set of dividing plates and adjustable tailstock, your milling applications are nearly unlimited. With 4° table movement per handle rotation and 20 second vernier scale, control is very accurate and precise. Also includes a 3⁄8" clamping set for the 4-slot table. Everything you need in one great set!

Figure 38. H7527 6" Rotary Table Set.

SB1348—South Bend® 8-Pc. R-8 Collet Set
SB1349—South Bend® 16-Pc. R-8 Collet Set
Get true South Bend® quality and precision with one of these Quick-Change Collet Sets. Each set includes hardened and precision-ground spring collets for maximum holding power, collet chuck, spanner wrench, and protective moulded case.

Figure 40. Model SB1349 South Bend 16-Pc. R-8 Collet Set.

H9599—Machine Shop Trade Secrets
G5053—The Home Machinist’s Handbook
Excellent reference pages for novices and professionals alike. Each book is filled with drawings charts and tables for getting the most of your milling machine. Model H9599 has 320 pages. Model G5053 has 275 pages.

Figure 39. Great texts for mill/drills.

G7156—4" (3½") Precision Milling Vise
G7154—5" (4½") Precision Milling Vise
G7155—6" (5½") Precision Milling Vise
Swivel Milling Vises feature perfectly aligned, precision ground jaws, large Acme® screws and easy to read 0°–360° scales.

Figure 41. G7154 Precision Milling Vise.
T10442—10 Pc. Milling Tool Kit
Increase your milling capabilities with this versatile tool kit. Kit includes: Collet chuck with R-8 shank and spanner wrench; ⅜", ⅜", ⅛", ⅛", ⅛", ⅛", and ⅛" collets; 2" self centering vise with precision ground jaws; 3" 3-jaw chuck with reversible jaws; 3" rotary table with 15 minute graduations; 6 T-slot clamps; a fitted tool box.

Figure 42. T10442 10-Pc. Milling Tool Kit.

G7066—5" Tilting/Swiveling Milling Vise
H7576—Precision Self-Centering Vise

Figure 43. Specialty milling vises.

Tilt Tables
G5758—5" x 7" x 3½"
G5759—7" x 10" x 5"
Set your work at any angle from -45° to +45° with these sturdy Tilt Tables. Heavy-duty construction includes ⅜" T-slots, two locking screws, and precision base. ⅛" mounting slots.

Figure 44. Tilt Table.

G1076—52-PC. Clamping Kit for ⅛" T-Slots
This clamping kit includes 24 studs, 6 step block pairs, 6 T-nuts, 6 flange nuts, 4 coupling nuts, and 6 end hold-downs. The rack is slotted so it can be mounted close to the machine for easy access.

Figure 45. G1076 52-PC. Clamping Kit.
G9760—20-PC. 2 & 4 Flute TiN End Mill Set.
Includes these sizes and styles in two and four flute styles: \(\frac{3}{16}\)", \(\frac{1}{4}\)", \(\frac{5}{16}\)"., \(\frac{3}{8}\)", \(\frac{7}{16}\)", \(\frac{1}{2}\)", \(\frac{9}{16}\)"., \(\frac{5}{8}\)"., \(\frac{11}{16}\)"., and \(\frac{3}{4}\)".

Figure 46. G9760 20-PC End Mill Set.

G5774—R-8 End Mill Holder Set
Hold various sized end mills in your R-8 spindle with this End Mill Holder Set. Includes holders for \(\frac{3}{4}\)", \(\frac{3}{8}\)", \(\frac{1}{2}\)", \(\frac{5}{8}\)" and \(\frac{3}{4}\)" end mills.

Figure 47. G5774 R-8 End Mill Holder Set.

G9612—Test Indicator
This Test Indicator has a 0.03" range in graduations of 0.0005", an easy-to-read dial, and a pivoting stylus that moves at right angles to the dial face.

Figure 48. G9612 Test Indicator.

G5641—1-2-3 Blocks
G9815—Parallel Set
Blocks are square to within .0003". Measure 1" x 2" x 3". Parallel set measures 6" long by \(\frac{1}{2}\)", \(\frac{5}{8}\)", \(\frac{3}{4}\)", \(\frac{7}{8}\)", \(1\)", \(\frac{1}{6}\)", \(\frac{1}{4}\)", \(\frac{1}{8}\)", \(\frac{1}{2}\)"., and \(\frac{1}{8}\)".

Figure 49. G5641 1-2-3 Blocks and G9815 Parallel Set.

H5930—4-Pc Center Drill Set 60°
H5931—4-Pc Center Drill Set 82°
Double ended HSS Center Drills are precision ground. Includes sizes 1-4.

Figure 50. H5930 4-pc Center Drill Set 60°.

G3658—Titanium Drill Bits
Titanium nitride-coated bits last up to six times as long as uncoated bits. This 115-piece set features 29 fractional bits, from \(\frac{1}{6}\)" to \(\frac{1}{2}\)" in increments of \(\frac{1}{64}\)", letter bits from A–Z, and 60 number bits. Housed in rugged steel case.

Figure 51. G3658 Titanium Drill Bits.
SECTION 6: MAINTENANCE

WARNING
To reduce risk of shock or accidental startup, always disconnect machine from power before adjustments, maintenance, or service.

Schedule

Regular maintenance will help ensure proper care of the equipment. We strongly recommend that all operators make a habit of following the maintenance procedures found in this section. For optimum performance from this machine, this maintenance schedule must be strictly followed.

Ongoing

To maintain a low risk of injury and proper machine operation, if you ever observe any of the items below, shut the machine down immediately, disconnect it from power, and fix the problem before continuing operations.

- Loose mounting bolts or fasteners.
- Worn, frayed, cracked, or damaged wires.
- Emergency STOP button not working correctly.
- Worn or loose V-belts (see Page 50).
- Missing or open belt guards/door.
- Coolant not flowing correctly.
- Any other unsafe condition.

Before Beginning Operations

- Make sure the electric cabinet door is closed and properly latched.
- Press the Emergency STOP button on the master control panel to prevent high-speed spindle startup when connected to power.
- Make sure the X-axis power feed is turned OFF to prevent unintentional table movement when connected to power.
- Check the coolant reservoir in the base. Fill it or clean it out if necessary (see Page 46).
- Perform all required lubrication tasks (see Page 41).
- Check table movement in all three axes for loose/tight gib. Adjust the gib if necessary.

Daily, After Operations

- Push the Emergency STOP button, turn the master power switch OFF, and disconnect the machine from power.
- Vacuum/clean all chips and swarf from table, slides, and base.
- Wipe down all unpainted or machined surfaces with a high-quality rust preventative.
Cleaning & Protecting

Regular cleaning is one of the most important steps in taking good care of this machine. In most shops, each operator is responsible for cleaning the machine immediately after using it or at the end of the day. We recommend that the cleaning routine be planned into the workflow schedule, so that adequate time is set aside to do the job right.

Typically, the easiest way to clean swarf from the ways and table is to use a wet/dry shop vacuum that is dedicated for this purpose only. The small chips leftover after vacuuming can be wiped up with a slightly oiled rag. Avoid using compressed air to blow off chips, as it may drive them deeper into moving surfaces and could cause sharp chips to fly into your face or hands.

All visible swarf should be removed from the mill during cleaning.

Besides the ways, all other unpainted and machined surfaces should be wiped down daily to keep them rust-free and in top condition. This includes any surface that is vulnerable to rust if left unprotected (especially any parts that are exposed to water soluble coolant). Typically, a thin film of way oil is all that is necessary for protection (refer to Page 36 for way oil from Grizzly).

Lubrication

The mill has numerous moving metal-to-metal contacts that require regular and proper lubrication to ensure efficient and long-lasting operation.

Other than the lubrication points covered in this section, all other bearings are internally lubricated and sealed at the factory. Simply leave them alone unless they need to be replaced.

DISCONNECT MACHINE FROM POWER before performing any lubrication task!

Important: Before adding lubricant, clean the debris and grime from the device and the immediate area to prevent contamination of the new lubricant.

Use the schedule and information in the chart below as a daily guide for lubrication tasks.

<table>
<thead>
<tr>
<th>Lubrication Task</th>
<th>Frequency (Hours of Operation)</th>
<th>Page Ref.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ball Oilers</td>
<td>4–8</td>
<td>42</td>
</tr>
<tr>
<td>Vertical Spindle Bearings</td>
<td>4–8</td>
<td>43</td>
</tr>
<tr>
<td>Quill Exterior</td>
<td>4–8</td>
<td>43</td>
</tr>
<tr>
<td>Quill Rack &amp; Pinion</td>
<td>40</td>
<td>43</td>
</tr>
<tr>
<td>Table Leadscrews</td>
<td>40</td>
<td>44</td>
</tr>
<tr>
<td>Ram Ways</td>
<td>40</td>
<td>44</td>
</tr>
<tr>
<td>Z-Axis Bevel Gears</td>
<td>80</td>
<td>44</td>
</tr>
<tr>
<td>X-Axis Power Feed Gears</td>
<td>80</td>
<td>45</td>
</tr>
</tbody>
</table>

NOTICE

The recommended lubrication schedule is based on light-to-medium usage. Keeping in mind that lubrication helps to protect the value and operation of the mill, these lubrication tasks may need to be performed more frequently depending on usage.
Ball Oilers

Oil Type ...... Model T23963 or ISO 32 Equivalent
Oil Amount........................................ 1–2 Pumps
Lubrication Frequency ...... 4–8 Hrs. of Operation

Proper lubrication of ball oilers is done with a pump-type oil can that has a plastic or rubberized cone tip (see Page 36 for offerings from Grizzly). We do not recommend using metal needle or lance tips, as they can push the ball too far into the oiler, break the spring seat, and lodge the ball in the oil galley.

Push the tip of the oil can nozzle against the ball oiler to create a hydraulic seal, then pump the oil can once or twice. If you see sludge and contaminants coming out of the lubrication area, continue pumping the oil can until the oil runs clear. Move the components through the entire path of travel a few times to distribute the oil. When finished, wipe away the excess oil.

Use Figures 52–56 to locate the 13 ball oilers on the Model G0757.

Note: The five way ball oilers shown in Figure 52 are duplicated on the other side of the machine.
**Vertical Spindle Bearings**

Oil Type ...... Model T23963 or ISO 32 Equivalent
Oil Amount..................................... 1–2 Pumps
Lubrication Frequency...... 4–8 Hrs. of Operation

**To lubricate the vertical spindle bearings:**

1. Remove the circular cover on the right side of the head to expose the vertical spindle spline (see Figure 57).

   ![Spindle Spline Exposed](image)

   **Figure 57.** Vertical spindle spline exposed for lubrication.

2. Raise the spindle until you can see the top of the quill.

3. Add 2–3 pumps from an oil can between the spindle spline and the top of the quill.

4. Replace the circular cover and run the vertical spindle for a few minutes to distribute the oil in the bearings.

**Quill Exterior**

Oil Type ...... Model T23962 or ISO 68 Equivalent
Oil Amount..................................... Thin Coat
Lubrication Frequency...... 4–8 Hrs. of Operation

Fully extend the spindle to expose the quill (see Figure 58), then use an oily shop rag to apply a thin coat of lubricant to the smooth surface of the quill.

**Note:** If you remove any of the grease from the teeth of the quill rack, replace it as instructed below.

![Quill Smooth Surface](image)

**Figure 58.** Quill lubrication points.

**Quill Rack & Pinion**

Grease Type ........ NLGI#2 Grease or Equivalent
Oil Amount..................................... Thin Coat
Lubrication Frequency...... 40 Hrs. of Operation

Fully extend the spindle to expose the quill rack (see Figure 58), then use mineral spirits, shop rags, and a brush to clean the old grease from the teeth of the rack and pinion.

When dry, use a brush to apply a thin coat of grease to the teeth, then move the quill up and down several times to evenly distribute the grease.
**Table Leadscrews**

Oil Type ..... Model T23962 or ISO 68 Equivalent
Oil Amount............................................Thin Coat
Lubrication Frequency........40 Hrs. of Operation

Move the table as necessary to access the entire length of the X-, Y-, and Z-axis leadscrews (see Figures 59–60), then use mineral spirits, shop rags, and a brush to clean them.

**Ram Ways**

Oil Type ..... Model T23962 or ISO 68 Equivalent
Oil Amount............................................Thin Coat
Lubrication Frequency........40 Hrs. of Operation

Move the ram as necessary to gain access to the entire length of the dovetail ways (see Figure 61), use mineral spirits and shop rags to clean the ways, then apply a thin coat of lubricant.

**Z-Axis Bevel Gears**

Grease Type........ NLGI#2 Grease or Equivalent
Oil Amount............................................Thin Coat
Lubrication Frequency........80 Hrs. of Operation

Use mineral spirits, shop rags, and a brush to clean the old grease from the teeth of the bevel gears shown in Figure 62.

When dry, use a clean brush to apply a thin coat of grease to the teeth, then move the table up and down to evenly distribute the grease.

---

**Figure 59.** X-axis leadscrew (as viewed underneath the table).

**Figure 60.** Y- and Z-axis leadscrews (as viewed underneath the knee).

**Figure 61.** Ram dovetail ways.

**Figure 62.** Location of Z-axis bevel gears.
X-Axis Power Feed Gears

Grease Type ................. NLGI#2 or Equivalent
Amount ................................... Thin Coat
Add Frequency ...................... 40 hrs. of Operation

Tool Needed  Qty
Wrench 19mm ........................................ 1

To lubricate the power feed gears:

1. DISCONNECT MACHINE FROM POWER!
2. Remove the hex nut and ball handle from the power unit end of the X-axis leadscrew.
3. Unthread and remove the knurled retaining ring and graduated dial ring from the end of leadscrew.
4. Remove the brass bevel gear from the leadscrew, then remove the leadscrew alignment key (see Figure 63).
5. Brush a light coat of grease on the bevel gear teeth and the smaller drive gear.
6. Replace the leadscrew alignment key, then align the bevel gear keyway with the key as you slide the gear onto the leadscrew and mesh its teeth with the drive gear.
7. Replace the graduated dial ring and secure it with the knurled retaining ring—do not overtighten.
8. Slide the ball handle onto the leadscrew, align the keyway with the leadscrew alignment key, then secure it with the hex nut removed in Step 2.
9. Move the table with the ball handle to check gear movement and distribute the grease on the gears. If the movement is not smooth, repeat Steps 2–8 until it is.

Figure 63. Power feed gears and key.
Coolant

Hazards
As some coolant ages, dangerous microbes can proliferate and create a biological hazard. The risk of exposure to this hazard can be greatly reduced by replacing the old coolant on a regular basis, as indicated in the maintenance schedule.

The important thing to keep in mind when working with the coolant is to minimize exposure to your skin, eyes, and respiratory system by wearing the proper PPE (personal protective equipment), such as splash-resistant safety glasses, long-sleeve gloves, protective clothing, and a NIOSH approved respirator.

A small amount of coolant is lost during normal operation. Check the coolant reservoir regularly and fill it if necessary. We recommend changing the coolant every three months or sooner if it develops an unpleasant odor. However, be sure to follow the coolant manufacturer's instructions when checking, adding, or changing coolant.

The coolant reservoir holds approximately 2 gallons (7.5 liters) of fluid.

WARNING
BIOLOGICAL & POISON HAZARD!
Use the correct personal protection equipment when handling coolant. Follow federal, state, and fluid manufacturer requirements for proper disposal.

A small amount of coolant is lost during normal operation. Check the coolant reservoir regularly and fill it if necessary. We recommend changing the coolant every three months or sooner if it develops an unpleasant odor. However, be sure to follow the coolant manufacturer's instructions when checking, adding, or changing coolant.

The coolant reservoir holds approximately 2 gallons (7.5 liters) of fluid.

NOTICE
Running the coolant pump without adequate coolant in the reservoir may permanently damage the coolant pump, which will not be covered by the warranty.

Checking/Adding Coolant

To check/add coolant:

1. DISCONNECT MACHINE FROM POWER!

2. Clean away debris and grime from the coolant return screen and the surrounding area, then remove the screen from the base, as shown in Figure 64.

3. Use a clean metal tool as a dip stick to measure the level of coolant in the reservoir. If the level is lower than 1 1/2", add coolant by pouring it through the hole in the base left by the return screen.

4. Re-install the return screen before resuming milling operations.

Tip: As an alternate method, leave the return screen in place and use a clean, small instrument through the holes in the return screen as a dip stick. If more coolant is necessary, make sure the screen and surrounding area are clean from any containments, then add the coolant through the screen.
Machine Storage

The machine must be properly prepared if it will be stored for any period of time. Doing this will help prevent the development of rust and corrosion and ensure the mill remains in good condition for later use.

Note: When taking the machine out of storage, repeat the Test Run and the Spindle Break-In.

To prepare the machine for storage:

1. DISCONNECT MACHINE FROM POWER!

2. Lubricate the machine as directed in Lubrication, beginning on Page 41.

3. Clean out coolant reservoir as directed in Changing Coolant on this page.

4. Thoroughly clean all unpainted, bare metal surfaces, then coat them with quality rust preventative. Take care to ensure these surfaces are completely covered but rust preventative is kept off painted surfaces.

   Note: If the machine will be out of service for only a short period of time, use way oil in place of rust preventative.

5. Loosen belts to prevent them from stretching during storage. Post a reminder on the machine that belts need to be re-installed or tensioned before resuming operations.

6. Place a few moisture-absorbing desiccant packs inside the electrical cabinet.

7. Cover and place the machine in a dry area that is out of direct sunlight and away from hazardous fumes, paint, solvents, or gas. Fumes and sunlight can bleach or discolor paint and plastic parts.

---

Changing Coolant

Tools Needed

<table>
<thead>
<tr>
<th>Tool</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hex Wrench 4mm</td>
<td>1</td>
</tr>
<tr>
<td>Catch Pan</td>
<td>1</td>
</tr>
<tr>
<td>Empty Bucket 5 Gal.</td>
<td>1</td>
</tr>
<tr>
<td>Rubber Hose (optional)</td>
<td>1</td>
</tr>
<tr>
<td>New Coolant</td>
<td>2 Gallons (7.5 Liters)</td>
</tr>
</tbody>
</table>

To change the coolant:

1. Put on personal protective equipment.

2. Place the catch pan on the table, position the coolant nozzle into the pan, then use the coolant pump to drain the reservoir.

   Note: When the catch pan is near full, empty it into a 5 gallon bucket, then repeat the process until the reservoir is empty.

   Tip: Alternately, slide a rubber hose onto the coolant nozzle and point it into 5 gallon bucket.

3. DISCONNECT MACHINE FROM POWER!

4. Clean away debris and grime from the coolant return screen and the surrounding area, then remove the screen from the base.

5. Thoroughly clean out the reservoir. Make sure the interior is completely dry before adding new coolant.

   Note: Use a shop vacuum and a cleaning solution that is compatible with type of coolant. For instance, if you are using a water-base coolant, then use a water-base cleaning solvent. Also, use magnets to remove any metal chips left behind.

6. When the reservoir is clean and dry, fill the reservoir with new coolant through the hole in the base left by the return screen.

   Tip: Place a couple of magnets inside the reservoir under the return screen to collect metal particles and keep them out of the coolant pump.

7. Re-install the return screen before resuming milling operations.
## Troubleshooting

### Machine does not start.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible Cause</th>
<th>Possible Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine does not start.</td>
<td>1. Emergency STOP button depressed.</td>
<td>1. Twist emergency STOP button clockwise until it pops out to reset it.</td>
</tr>
<tr>
<td></td>
<td>2. Plug at fault or wired incorrectly.</td>
<td>2. Ensure plug is not damaged and is wired correctly.</td>
</tr>
<tr>
<td></td>
<td>3. Incorrect power supply voltage.</td>
<td>3. Ensure power supply voltage matches circuit requirements (Page 13).</td>
</tr>
<tr>
<td></td>
<td>4. Wall fuse/circuit breaker is blown/tripped.</td>
<td>4. Ensure circuit size is correct and a short does not exist. Reset breaker or replace fuse.</td>
</tr>
<tr>
<td></td>
<td>5. Wiring is open/has high resistance.</td>
<td>5. Check for broken wires or disconnected/corroded connections; repair/replace as necessary.</td>
</tr>
<tr>
<td></td>
<td>7. Control panel buttons at fault.</td>
<td>7. Ensure each button is wired correctly; replace if at fault (Page 57).</td>
</tr>
<tr>
<td></td>
<td>8. Motor or motor components are at fault.</td>
<td>8. Test/repair/replace.</td>
</tr>
</tbody>
</table>

### Machine stalls or is overloaded.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible Cause</th>
<th>Possible Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine stalls or is overloaded.</td>
<td>1. Feed rate/cutting speed too fast.</td>
<td>1. Decrease feed rate/cutting speed.</td>
</tr>
<tr>
<td></td>
<td>2. Wrong tool type.</td>
<td>2. Use the correct tool for the task.</td>
</tr>
<tr>
<td></td>
<td>3. Machine is undersized for the task or tooling is incorrect for the task.</td>
<td>3. Use smaller or sharper tooling; reduce feed rate or spindle speed; use coolant.</td>
</tr>
<tr>
<td></td>
<td>4. Motor has overheated.</td>
<td>4. Clean off motor, let cool, and reduce workload.</td>
</tr>
<tr>
<td></td>
<td>5. Motor wired incorrectly.</td>
<td>5. Ensure motor wiring is correct (Page 59).</td>
</tr>
<tr>
<td></td>
<td>6. Motor bearings are at fault.</td>
<td>6. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.</td>
</tr>
<tr>
<td></td>
<td>7. Motor or motor components are at fault.</td>
<td>7. Test/repair/replace motor.</td>
</tr>
</tbody>
</table>

### Machine has vibration or noisy operation.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible Cause</th>
<th>Possible Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine has vibration or noisy operation.</td>
<td>1. Motor or machine component is loose.</td>
<td>1. Inspect/replace stripped or damaged bolts/nuts, and retighten with thread locking fluid.</td>
</tr>
<tr>
<td></td>
<td>2. Workpiece not secure.</td>
<td>2. Properly clamp workpiece on table or in vise.</td>
</tr>
<tr>
<td></td>
<td>3. Excessive depth of cut.</td>
<td>3. Decrease depth of cut.</td>
</tr>
<tr>
<td></td>
<td>4. Tooling is loose.</td>
<td>4. Make sure tooling is properly secured.</td>
</tr>
<tr>
<td></td>
<td>5. Tooling is dull or at fault.</td>
<td>5. Replace/resharpen tooling.</td>
</tr>
<tr>
<td></td>
<td>6. Machine is incorrectly anchored to floor or sits unevenly.</td>
<td>6. Tighten/replace anchor bolts; relocate/shim machine.</td>
</tr>
<tr>
<td></td>
<td>7. Motor fan is rubbing on fan cover.</td>
<td>7. Replace dented fan cover or damaged fan.</td>
</tr>
<tr>
<td></td>
<td>8. Motor bearings are at fault.</td>
<td>8. Test by rotating shaft; rotational grinding/loose shaft requires bearing replacement.</td>
</tr>
<tr>
<td>Symptom</td>
<td>Possible Cause</td>
<td>Possible Solution</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Tool loose in spindle.</td>
<td>1. Tool is not fully drawn up into spindle taper.</td>
<td>1. Tighten drawbar.</td>
</tr>
<tr>
<td></td>
<td>2. Debris on tooling or in spindle taper.</td>
<td>2. Clean tooling and spindle taper.</td>
</tr>
<tr>
<td></td>
<td>3. Taking too big of a cut.</td>
<td>3. Lessen depth of cut and allow chips to clear.</td>
</tr>
<tr>
<td>Breaking tooling.</td>
<td>1. Spindle speed/feed rate is too fast.</td>
<td>1. Set spindle speed correctly (Page 31) or use slower feed rate.</td>
</tr>
<tr>
<td></td>
<td>2. Tooling too small.</td>
<td>2. Use larger tooling and slower feed rate.</td>
</tr>
<tr>
<td></td>
<td>3. Tooling getting too hot.</td>
<td>3. Use coolant or oil for appropriate application.</td>
</tr>
<tr>
<td></td>
<td>4. Taking too big of a cut.</td>
<td>4. Decrease depth of cut.</td>
</tr>
<tr>
<td></td>
<td>5. Spindle extended too far down.</td>
<td>5. Fully retract spindle and lower headstock. This increases rigidity.</td>
</tr>
<tr>
<td>Workpiece vibrates or chatters during operation.</td>
<td>1. Table locks not tight.</td>
<td>1. Tighten down table locks.</td>
</tr>
<tr>
<td></td>
<td>2. Workpiece not secure.</td>
<td>2. Properly clamp workpiece on table or in vise.</td>
</tr>
<tr>
<td></td>
<td>3. Spindle speed/feed rate is too fast.</td>
<td>3. Set spindle speed correctly (Page 31) or use a slower feed rate.</td>
</tr>
<tr>
<td></td>
<td>4. Spindle extended too far down.</td>
<td>4. Fully retract spindle and raise table. This increases rigidity.</td>
</tr>
<tr>
<td>Table is hard to move.</td>
<td>1. Table locks are tightened down.</td>
<td>1. Make sure table locks are fully released.</td>
</tr>
<tr>
<td></td>
<td>2. Chips have loaded up on ways.</td>
<td>2. Frequently clean away chips that load up during operations.</td>
</tr>
<tr>
<td></td>
<td>3. Ways are dry and need lubrication.</td>
<td>3. Lubricate ways (Page 42).</td>
</tr>
<tr>
<td></td>
<td>4. Table limit stops are interfering.</td>
<td>4. Check to make sure that all table limit stops are not in the way.</td>
</tr>
<tr>
<td></td>
<td>5. Gibs are too tight.</td>
<td>5. Adjust gibs (see Page 52).</td>
</tr>
<tr>
<td>Bad surface finish.</td>
<td>1. Spindle speed/feed rate is too fast.</td>
<td>1. Set spindle speed correctly (Page 31) or use a slower feed rate.</td>
</tr>
<tr>
<td></td>
<td>2. Using a dull or incorrect tooling.</td>
<td>2. Sharpen tooling or select one that better suits the operation.</td>
</tr>
<tr>
<td></td>
<td>3. Wrong rotation of tooling.</td>
<td>3. Check for proper cutting rotation for tooling.</td>
</tr>
<tr>
<td></td>
<td>4. Workpiece not secure.</td>
<td>4. Properly clamp workpiece on table or in vise.</td>
</tr>
<tr>
<td></td>
<td>5. Spindle extended too far down.</td>
<td>5. Fully retract spindle and raise table. This increases rigidity.</td>
</tr>
<tr>
<td>Cutting results not square.</td>
<td>1. Table and spindle are not at 90° to each other.</td>
<td>1. Tram the spindle (Page 34).</td>
</tr>
</tbody>
</table>
V-Belt Service

After approximately 16 hours of use, the V-belts stretch slightly and seat into the pulleys. It is important to check and adjust them to compensate for this initial wear. Check the tension thereafter on a regular basis. If the belts become excessively worn or damaged, replace them.

All V-belts can be replaced by releasing the tension and rolling them off the pulleys, then rolling the new belts back onto the pulleys.

Note: Replace the upper horizontal spindle V-Belts as a matched pair. This will ensure even wear and power transmission.

Tensioning Vertical Spindle V-Belts

Tools Needed

<table>
<thead>
<tr>
<th>Tool</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wrench 22mm</td>
<td>1</td>
</tr>
<tr>
<td>Wrench 24mm</td>
<td>1</td>
</tr>
</tbody>
</table>

To tension the vertical spindle V-belts:

1. DISCONNECT MACHINE FROM POWER!

2. Remove the vertical spindle V-belt covers to gain access to the vertical V-belts and pulleys (see Figure 65).

3. Loosen the center pulley hex nut.

4. Loosen the two motor mount hex bolts (one on each side of the motor).

5. Apply pressure on the motor handle toward the back of the machine to tension the V-belts as you retighten the center pulley hex nut and the motor mount hex bolts.

Note: There is proper V-belt tension when approximately ¼”–½” deflection is achieved (see Figure 66) by applying moderate pressure midway between the pulleys.

6. Re-install the V-belt covers before connecting the machine to power.

Figure 65. Vertical spindle V-belt covers removed to gain access to vertical spindle V-belts and pulleys.

Figure 66. Checking V-belt tension.
Tensioning Lower Horizontal Spindle V-Belts

Tools Needed

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wrench 24mm</td>
</tr>
<tr>
<td>1</td>
<td>Dead Blow Hammer</td>
</tr>
</tbody>
</table>

**To tension the lower horizontal spindle V-belts:**

1. DISCONNECT MACHINE FROM POWER!

2. Open the horizontal V-belt cover to gain access to the horizontal spindle V-belts and pulleys, as shown in Figure 67.

3. Loosen the tension thumbwheel and the hex nut behind the lower idler pulley bracket.

   **Note:** In the next step, you may have to bump the lower idler pulley with the deadblow hammer to get it to move.

4. Apply pressure on the lower idler pulley to the left as you tighten the tension thumbwheel.

   **Note:** There is proper V-belt tension when approximately ¼”–½” deflection is achieved (see Figure 66 on the previous page) by applying moderate pressure midway between the pulleys.

5. Retighten the hex nut behind the center pulley bracket.

6. Close and latch the V-belt cover.

Tensioning Upper Horizontal Spindle V-Belts

Tools Needed

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hex Wrench 6mm</td>
</tr>
<tr>
<td>1</td>
<td>Wrench 14mm</td>
</tr>
</tbody>
</table>

**To tension the upper horizontal spindle V-belts:**

1. DISCONNECT MACHINE FROM POWER!

2. Open the horizontal V-belt cover to gain access to the horizontal spindle V-belts and pulleys.

3. Loosen the hex nut on the center cap screw shown in Figure 68, then rotate the cap screw clockwise to increase tension in the upper V-belts.

**Note:** There is proper V-belt tension when approximately ¼”–½” deflection is achieved (see Figure 66 on the previous page) by applying moderate pressure midway between the pulleys.

4. Retighten the hex nut and secure the V-belt cover.
Adjusting Gibs

Gibs are tapered lengths of metal that are sandwiched between two moving surfaces. Gibs control the gap between these surfaces and how they slide past one another. Correctly adjusting the gib is critical to producing good results.

Correctly positioning gib is a matter of trial and error and patience. Tight gib make table movement more accurate but stiff. Loose gib make table movement sloppy but easier to do. The goal of gib adjustment is to remove unnecessary sloppiness without causing the ways to bind.

Many experienced machinists adjust the gib just to the point where they can feel a slight drag in table movement.

Screws on each end of the gib allow gib adjustment to increase or decrease the friction between the sliding surfaces.

DISCONNECT MACHINE FROM POWER BEFORE ADJUSTING THE GIBS!

Make sure all table locks are loose. For the X- and Y-axis gib, loosen one gib adjustment screw (see Figure 69) and tighten the opposite screw the same amount to move the gib, while at the same time rotating the handwheel to move the table until you feel a slight drag in that path of movement.

Note: Remove the way cover behind the table to gain access to the rear Y-axis gib adjustment screw.

The Z-axis gib has only one adjustment screw on the top of the gib (see Figure 70) that moves the gib up and down. Use the same method of adjustment as the other gib with the one screw.

Note: Remove the way cover behind the table to gain access to the Z-axis gib adjustment screw.

Figure 69. Locations of X- and Y-axis gib adjustment screws.

Figure 70. Location of Z-axis gib adjustment screw.
Adjusting Leadscrew Backlash

Leadscrew backlash is the amount of free play movement in the leadscrew (when the leadscrew moves but the table does not) after changing the direction of rotation.

A leadscrew must have a certain amount of backlash to rotate easily, but over time, it increases with wear. Generally, 0.003"–0.006" leadscrew backlash is acceptable to ensure smooth movement and reduce the risk of premature thread wear.

The X-axis leadscrew backlash is adjusted using a long 4mm hex wrench to tighten/loosen the cap screws on the leadscrew nut. This adjusts the force the leadscrew nut exerts on the leadscrew threads.

The X-axis leadscrew nut shown in Figure 71 is accessed from underneath the right side of the table.

Figure 71. Location of X-axis leadscrew nut cap screws for adjusting backlash.
SECTION 8: WIRING

These pages are current at the time of printing. However, in the spirit of improvement, we may make changes to the electrical systems of future machines. Compare the manufacture date of your machine to the one stated in this manual, and study this section carefully.

If there are differences between your machine and what is shown in this section, call Technical Support at (570) 546-9663 for assistance BEFORE making any changes to the wiring on your machine. An updated wiring diagram may be available. Note: Please gather the serial number and manufacture date of your machine before calling. This information can be found on the main machine label.

WARNING

Wiring Safety Instructions

SHOCK HAZARD. Working on wiring that is connected to a power source is extremely dangerous. Touching electrified parts will result in personal injury including but not limited to severe burns, electrocution, or death. Disconnect the power from the machine before servicing electrical components!

MODIFICATIONS. Modifying the wiring beyond what is shown in the diagram may lead to unpredictable results, including serious injury or fire. This includes the installation of unapproved aftermarket parts.

WIRE CONNECTIONS. All connections must be tight to prevent wires from loosening during machine operation. Double-check all wires disconnected or connected during any wiring task to ensure tight connections.

CIRCUIT REQUIREMENTS. You MUST follow the requirements at the beginning of this manual when connecting your machine to a power source.

WIRE/COMPONENT DAMAGE. Damaged wires or components increase the risk of serious personal injury, fire, or machine damage. If you notice that any wires or components are damaged while performing a wiring task, replace those wires or components.

MOTOR WIRING. The motor wiring shown in these diagrams is current at the time of printing but may not match your machine. If you find this to be the case, use the wiring diagram inside the motor junction box.

CAPACITORS/INVERTERS. Some capacitors and power inverters store an electrical charge for up to 10 minutes after being disconnected from the power source. To reduce the risk of being shocked, wait at least this long before working on capacitors.

EXPERIENCING DIFFICULTIES. If you are experiencing difficulties understanding the information included in this section, contact our Technical Support at (570) 546-9663.

NOTICE

The photos and diagrams included in this section are best viewed in color. You can view these pages in color at www.grizzly.com.

COLOR KEY

BLACK BK
WHITE W
GREEN GR
RED RD
BLUE BL
BROWN BR
GRAY GR
ORANGE OR
YELLOW YL
PINK PK
LIGHT BLUE LB
BLUE BL
WHITE WH
TURQUOISE Tu
Electrical Cabinet Wiring

Figure 72. Electrical cabinet wiring.
Control Panel Wiring

Figure 73. Master control panel wiring.

Figure 74. Horizontal spindle control sub-panel.
Motor Wiring Diagrams

Vertical Spindle Motor

- Run Capacitor: 200MFD 250VAC
- Start Capacitor: 300MFD 250VAC
- Ground

To Master Control Panel (Page 57)

Horizontal Spindle Motor

- Run Capacitor: 20MFD 450VAC
- Start Capacitor: 150MFD 250VAC
- Ground

To Electrical Cabinet (Page 55)

READ ELECTRICAL SAFETY ON PAGE 54!
Other Component Wiring Diagrams

To Electrical Cabinet (Page 55)

Horizontal V-Belt Door Limit Switch
Chint YBLXW-W11Q1

Coolant Pump
Capacitor
5MFD
150VAC

Gnd

To Electrical Cabinet (Page 55)

Halogen Work Lamp
220VAC
Nema 6-20 Plug
(As Recommended)

Ground

To Electrical Cabinet (Page 55)

220 VAC
Hot

To Electrical Cabinet (Page 55)

Model G0757 (Mfg. Since 6/13)
Motor & Other Component Wiring

Figure 75. Vertical spindle motor wiring.

Figure 76. Horizontal spindle motor wiring.

Figure 77. Coolant pump wiring.

Figure 78. Horizontal spindle V-belt cover safety switch.
Please Note: We do our best to stock replacement parts whenever possible, but we cannot guarantee that all parts shown here are available for purchase. Call (800) 523-4777 or visit our online parts store at www.grizzly.com to check for availability.
<table>
<thead>
<tr>
<th>REF</th>
<th>PART #</th>
<th>DESCRIPTION</th>
<th>REF</th>
<th>PART #</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>P0757001</td>
<td>BASE</td>
<td>48</td>
<td>P0757048</td>
<td>LOWER WAY COVER</td>
</tr>
<tr>
<td>2</td>
<td>P0757002</td>
<td>COLUMN</td>
<td>49</td>
<td>P0757049</td>
<td>UPPER WAY COVER</td>
</tr>
<tr>
<td>3</td>
<td>P0757003</td>
<td>Z-AXIS LEADScreW HOUSING</td>
<td>50</td>
<td>P0757050</td>
<td>CAP SCREW M6-1 X 25</td>
</tr>
<tr>
<td>4</td>
<td>P0757004</td>
<td>LOCK WASHER 10MM</td>
<td>51</td>
<td>P0757051</td>
<td>KNEE</td>
</tr>
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<td>5</td>
<td>P0757005</td>
<td>HEX BOLT M10-1.5 X 45</td>
<td>52</td>
<td>P0757052</td>
<td>SPLASH PAN</td>
</tr>
<tr>
<td>6</td>
<td>P0757006</td>
<td>COOLANT DRAIN SCREEN</td>
<td>53</td>
<td>P0757053</td>
<td>CAP SCREW M6-1 X 12</td>
</tr>
<tr>
<td>7</td>
<td>P0757007</td>
<td>PHLP HD SCR M6-1 X 12</td>
<td>54</td>
<td>P0757054</td>
<td>Z-AXIS LEADScreW</td>
</tr>
<tr>
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<td>HEX BOLT M16-2 X 65</td>
<td>55</td>
<td>P0757055</td>
<td>SPANNER NUT M16-1.5</td>
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<tr>
<td>9</td>
<td>P0757009</td>
<td>LOCK WASHER 16MM</td>
<td>56</td>
<td>P0757056</td>
<td>BEVEL GEAR 25T</td>
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<td>Z-AXIS LEADScreW COLLAR</td>
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<td>P0757057</td>
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</tr>
<tr>
<td>11</td>
<td>P0757011</td>
<td>CAP SCREW M8-1.25 X 25</td>
<td>58</td>
<td>P0757058</td>
<td>SPACER</td>
</tr>
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<td>P0757012</td>
<td>TURRET</td>
<td>59</td>
<td>P0757059</td>
<td>BEARING SEAT</td>
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<td>P0757013</td>
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<td>P0757060</td>
<td>THRUSt BEARING 51105</td>
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<td>P0757014</td>
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<td>P0757061</td>
<td>Z-AXIS LEADScreW NUT 42 X 60MM</td>
</tr>
<tr>
<td>15</td>
<td>P0757015</td>
<td>GEAR SHAFT 1ST</td>
<td>62</td>
<td>P0757062</td>
<td>SET SCREW M8-1.25 X 20</td>
</tr>
<tr>
<td>16</td>
<td>P0757016</td>
<td>SHAFT COLLAR</td>
<td>63</td>
<td>P0757063</td>
<td>BEVEL GEAR 2ST</td>
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<tr>
<td>17</td>
<td>P0757017</td>
<td>ADJUSTABLE HANDLE M10-1.5 X 25 (CHROME)</td>
<td>64</td>
<td>P0757064</td>
<td>SET SCREW M6-1 X 10</td>
</tr>
<tr>
<td>18</td>
<td>P0757018</td>
<td>LOCK PLUNGER</td>
<td>65</td>
<td>P0757065</td>
<td>THRUSt BEARING 51103</td>
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<tr>
<td>19</td>
<td>P0757019</td>
<td>RAM GIB</td>
<td>66</td>
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<td>20</td>
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<td>P0757067</td>
<td>KEY 5 X 5 X 20</td>
</tr>
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<td>P0757021</td>
<td>RAM</td>
<td>68</td>
<td>P0757068</td>
<td>Z-AXIS CRANK SHAFT</td>
</tr>
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<td>22</td>
<td>P0757022</td>
<td>RAM END COVER</td>
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<td>P0757069</td>
<td>SHAFT BRACKET</td>
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<td>P0757072</td>
<td>THUMB SCREW M6-1 X 10</td>
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<tr>
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<td>P0757026</td>
<td>HEADSTOCK MOUNT</td>
<td>73</td>
<td>P0757073</td>
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<td>CAP SCREW M16-2 X 50</td>
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<td>P0757074</td>
<td>SET SCREW M8-1.25 X 16</td>
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<td>P0757028</td>
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<td>77</td>
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<td>HANDLE STEP SCREW M10-1.5 X 15</td>
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<td>T-BOLT M16-2 X 60</td>
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<td>HORIZONTAL ARBOR SUPPORT</td>
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<tr>
<td>35</td>
<td>P0757035</td>
<td>LOCK WASHER 16MM</td>
<td>82</td>
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<td>83</td>
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<td>BUSHING (BRASS)</td>
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<td>37</td>
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<td>BALL OILER 8MM TAP-IN</td>
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<td>HALOGEN WORK LIGHT ASSEMBLY</td>
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### Electrical Components

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Right Side Machine Labels

Safety labels help reduce the risk of serious injury caused by machine hazards. If any label comes off or becomes unreadable, the owner of this machine MUST replace it in the original location before resuming operations. For replacements, contact (800) 523-4777 or www.grizzly.com.

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608

612

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Model G0757 (Mfg. Since 6/13)
**WARRANTY CARD**

Name ____________________________________________
Street _____________________________________________________________________________
City _______________________ State _________________________ Zip _____________________
Phone # ____________________ Email _________________________________________________
Model # ____________________ Order # _______________________ Serial # __________________

The following information is given on a voluntary basis. It will be used for marketing purposes to help us develop better products and services. **Of course, all information is strictly confidential.**

1. How did you learn about us?
   - [ ] Advertisement
   - [ ] Friend
   - [ ] Catalog
   - [ ] Card Deck
   - [ ] Website
   - [ ] Other:

2. Which of the following magazines do you subscribe to?
   - [ ] Cabinetmaker & FDM
   - [ ] Family Handyman
   - [ ] Hand Loader
   - [ ] Handy
   - [ ] Home Shop Machinist
   - [ ] Journal of Light Cont.
   - [ ] Live Steam
   - [ ] Model Airplane News
   - [ ] Old House Journal
   - [ ] Popular Mechanics
   - [ ] Popular Science
   - [ ] Popular Woodworking
   - [ ] Precision Shooter
   - [ ] Projects in Metal
   - [ ] RC Modeler
   - [ ] Rifle
   - [ ] Shop Notes
   - [ ] Shop Notes
   - [ ] Other:

3. What is your annual household income?
   - [ ] $20,000-$29,000
   - [ ] $30,000-$39,000
   - [ ] $40,000-$49,000
   - [ ] $50,000-$59,000
   - [ ] $60,000-$69,000
   - [ ] $70,000+

4. What is your age group?
   - [ ] 20-29
   - [ ] 30-39
   - [ ] 40-49
   - [ ] 50-59
   - [ ] 60-69
   - [ ] 70+

5. How long have you been a woodworker/metalworker?
   - [ ] 0-2 Years
   - [ ] 2-8 Years
   - [ ] 8-20 Years
   - [ ] 20+ Years

6. How many of your machines or tools are Grizzly?
   - [ ] 0-2
   - [ ] 3-5
   - [ ] 6-9
   - [ ] 10+

7. Do you think your machine represents a good value?  _____Yes  _____No

8. Would you recommend Grizzly Industrial to a friend?  _____Yes  _____No

9. Would you allow us to use your name as a reference for Grizzly customers in your area?
   **Note:** We never use names more than 3 times.  _____Yes  _____No

10. Comments:_____________________________________________________________________
    _______________________________________________________________________________
    _______________________________________________________________________________
    _______________________________________________________________________________
GRIZZLY INDUSTRIAL, INC.
P.O. BOX 2069
BELLINGHAM, WA 98227-2069

Send a Grizzly Catalog to a friend:

Name___________________________________________
Street____________________________________________
City________________________State______Zip______

TAPE ALONG EDGES--PLEASE DO NOT STAPLE
Grizzly Industrial, Inc. warrants every product it sells for a period of **1 year** to the original purchaser from the date of purchase. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs or alterations or lack of maintenance. This is Grizzly's sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant or represent that the merchandise complies with the provisions of any law or acts unless the manufacturer so warrants. In no event shall Grizzly’s liability under this warranty exceed the purchase price paid for the product and any legal actions brought against Grizzly shall be tried in the State of Washington, County of Whatcom.

We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special, or consequential damages arising from the use of our products.

To take advantage of this warranty, contact us by mail or phone and give us all the details. We will then issue you a “Return Number,” which must be clearly posted on the outside as well as the inside of the carton. We will not accept any item back without this number. Proof of purchase must accompany the merchandise.

The manufacturers reserve the right to change specifications at any time because they constantly strive to achieve better quality equipment. We make every effort to ensure that our products meet high quality and durability standards and we hope you never need to use this warranty.

Please feel free to write or call us if you have any questions about the machine or the manual.

Thank you again for your business and continued support. We hope to serve you again soon.
Buy Direct and Save with Grizzly® — Trusted, Proven and a Great Value!
~Since 1983~

Visit Our Website Today For Current Specials!

ORDER
24 HOURS A DAY!
1-800-523-4777